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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,856	01/15/2004	Christopher G. Malone	200311275-1	8746
22879	7590	05/16/2006	EXAMINER	
HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			PAPE, ZACHARY	
			ART UNIT	PAPER NUMBER
			2835	

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/759,856	<b>Applicant(s)</b> MALONE ET AL.	
	<b>Examiner</b> Zachary M. Pape	<b>Art Unit</b> 2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 March 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-21 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 15 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

The following detailed action is in response to the correspondence filed 3/3/2006.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8-13, 15-8, 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orr (US 6,758,353) in view of Elko et al. (US 4,894,749).

With respect to claims 1, 4, Orr teaches a slot filler adapted for usage in a rack cabinet (1) configured to accept a plurality of stacked standard electronic equipment devices (Column 1, Lines 12-25), housed within the standard rack mount cases the cabinet having an air inlet (Adjacent the front length 8) and exit (subsequent holes adjacent 10) on mutually opposing sides and a plurality of slots (4) capable of securing the stacked electronic devices (Column 3, Lines 31-33), the slot filler comprising: a blanking panel (5) adapted to cover an entry opening of an unoccupied slot (As illustrated in Fig 1). Orr fails to teach a body coupled to the blanking panel that emulates dimensions of a standard rack mount case housing a standard electronic equipment device and has a thickness selected so that clearance between the slot filler and an adjacent rack mount case and/or slot filler leaves an air flow gap from the air inlet to exit that is sufficiently small to create an air flow resistance that prevents air from

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re-circling toward the air inlet. Elko et al. teaches a body (30) coupled to the blanking panel (32) that emulates dimensions of an electronic unit and has a thickness selected so that clearance between the slot filler and an adjacent electronic device and/or slot filler leaves an air flow gap from an air inlet to exit that is sufficiently small to create an air flow resistance that prevents air from re-circling toward the air inlet (As illustrated in Fig 2, the air flows from the fan (11) into the air flow gap, past the electronic devices, and out through the holes located on the other end of the housing, see Column 3, Lines 31-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the body teachings of Elko et al. with the slot filler panel of Orr to provide more efficient cooling (Column 3, Lines 40-44).

With respect to claims 8 and 11, Orr teaches a system comprising: a rack cabinet (1) adapted to hold a plurality of stacked electronic devices (Column 1, Lines 11-25) housed within rack mount cases; a plurality of slots (Fig 2 as occupied by 14, 15) contained within the cabinet and adapted to secure the stacked rack mount cases containing the electronic equipment devices; and a slot filler (5) comprising: a blanking panel (5) capable of covering an entry opening of an unoccupied slot (As illustrated in Fig 1). Orr fails to teach a body coupled to the blanking panel that emulates dimensions of a standard rack mount case housing a standard electronic device and has a thickness selected so that clearance between the slot filler body and an adjacent rack mount case and/or slot filler leaves an air flow gap from the air inlet to exit that is sufficiently small to create an air flow resistance that prevents air from re-circling toward the air inlet. Orr also fails to teach an air inlet and exit coupled to mutually opposing

sides of the cabinet. Elko et al. teaches a body (30) coupled to the blanking panel (32) that emulates dimensions of an electronic unit and has a thickness selected so that clearance between the slot filler and an adjacent electronic device and/or slot filler leaves an air flow gap from an air inlet to exit that is sufficiently small to create an air flow resistance that prevents air from re-circling toward the air inlet (As illustrated in Fig 2, the air flows from the fan (11) into the air flow gap, past the electronic devices, and out through the holes located on the other end of the housing, see Column 3, Lines 31-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the body teachings of Elko et al. with the slot filler panel of Orr to provide more efficient cooling (Column 3, Lines 40-44). Regarding an air inlet and exit coupled to mutually opposing sides of the cabinet, It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate an air inlet and outlet into the standard electronic devices of Orr to provide a ventilation means for the internal electronics.

With respect to claims 15 and 16, Orr further teaches, a method of controlling airflow in an electronic system comprising: inserting a plurality of standard electronic equipment nU devices contained within standard nU rack mount cases where n is a multiple of U units of size 1 or greater (Column 1, Lines 11-25) into a housing (1) having multiple slots configured to receive the rack mount cases arranged in a stack (As illustrated in Fig 1, see also Column 1, Lines 11-25); directing a cooling air stream flow over the plurality of rack mount cases containing the electronic equipment nU devices from an air inlet to an exit (Column 1, Lines 25-35, particularly "rack units also often

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employ forced or drawn air"); inserting a slot filler (5) within any unoccupied slots between the plurality of rack mount cases containing the electronic equipment nU devices and/or slot fillers (Column 1, Lines 25-35). Orr fails to teach arranging the plurality of rack mount cases containing the electronic equipment nU devices and slot fillers with a selected clearance between adjacent rack mount cases containing the electronic equipments nU devices and/or slot fillers leaving an air flow gap from the air inlet to exit that is sufficiently small to create an air flow resistance that prevents air from re-circling toward the air inlet. Elko et al. teaches the conventionality of arranging slot filler bodies (30) in a case with electronic equipment such that an air flow gap from the air inlet to exit is sufficiently small to create an air flow resistance that prevents air from re-circling toward the air inlet (See Column 3, Lines 26-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Elko et al. with that of Orr to provide more efficient cooling (Column 3, Lines 40-44).

With respect to claims 20 and 21, Orr et al. further teaches a system comprising: a housing (1) with a plurality of slots (4) regularly arranged in a stack for receiving multiple electronic equipment devices encased within rack mounted cases (Column 1, Lines 11-24), the housing have an air inlet (Adjacent front surface 7) and an air exit (Adjacent rear portion near 2 and 3) for passing cooling air through the rack mount encased electronic equipment device; at least one rack mount encased electronic equipment device inserted into at least one of the plurality of slots (Column 1, Lines 11-24); and at least one slot filler (5) inserted into at least one of the plurality of slots, the

slot fillers having dimensions that emulate dimensions of a rack mount case (As illustrated in Fig 1, also see Column 1, Lines 11-40, and Column 2, Lines 1-10). Orr fails to teach that the at least one rack mount encased electronic equipment device and the slot filler having an arrangement when inserted into the slots so that clearance between the adjacent slot fillers and/or rack mount encased electronic equipment devices is an air flow gap that extends from the air inlet to the air exit that is sufficiently small to create an air flow resistance that prevents air from re-circling toward the air inlet. Elko et al. teaches slot fillers (30) which are arranged with other electronic devices such that the clearance between the adjacent slot fillers and/or rack mount encased electronic equipment devices is an air flow gap that extends from the air inlet to the air exit that is sufficiently small to create an air flow resistance that prevents air from re-circling toward the air inlet (As illustrated in Fig 2, see also Column 3, Lines 25-44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Elko et al. with that of Orr to provide more efficient cooling (Column 3, Lines 40-44).

With respect to claims 2 and 9, Orr et al. further teaches that the cabinet has a frontal surface (2) and columns (Best represented by 7) coupled to the frontal surface on lateral ends of the plurality of slots; the blanking panel (5) attaches to the columns (As illustrated in Fig 1); the standard electronic equipment devices and standard rack mount cases are standard nU devices and cases where n is a multiple of U units of size 1 or greater (Column 1, Lines 11-24). Orr et al. is silent as to the rack mount cases have planar exterior surfaces abutting the airflow gaps, however It would have been

obvious to one of ordinary skill in the art at the time the invention was made to comprise the exterior surfaces of the rack mount cases as planar since doing so would be allow the rack to be aesthetically pleasing and uniform throughout.

With respect to claims 3 and 10, Orr further teaches that the blanking panel (5) is a cosmetic plate that is used to cover open spaces in the cabinet and to facilitate controlled airflow (Column 1, Lines 25-35), and is constructed from sheet metal and/or plastic (Column 1, Line 40). Further, Elko et al. teaches that the body is constructed from sheet metal and/or plastic (Column 3, Lines 57-59; Fig 3 illustrates that the plate (32) and the body (30) are constructed as one piece and therefore the body and plate are both made of sheet metal (aluminum)).

With respect to claims 5, 6, 12, and 13, Elko et al. further teaches that the body shape is approximately a rectangular polyhedron/rigid rectangular plate (14 as illustrated in Fig 2), and surfaces of the slot filler body adjacent the air flow gap are planar (As illustrated in Fig 6). Orr and Elko et al. are silent as to the surfaces of the rack mount case, however It would have been obvious to one of ordinary skill in the art at the time the invention was made to comprise the exterior surfaces of the rack mount cases as planar since doing so would be allow the rack to be aesthetically pleasing and uniform throughout.

With respect to claim 17, Elko et al. further teaches receiving the cooling air stream flow into the housing from an air inlet in a front portion of the housing (Near 11); and venting warm air from the stacked electronic devices to an exit in a rear portion of the housing (Near numeral 10, as illustrated in Fig 2)



With respect to claim 18, Orr further teaches covering the slot filler in an unoccupied slot with an ornamental covering (Column 1, Lines 25-26, "blank panels are.. aesthetic").

**Claims 7, 14, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orr in view of Elko et al. and further in view of Feightner et al. (US 5,214,567).**

With respect to claims 7, 14, and 19, Orr in view of Elko et al. teaches the limitations of claims 1, 8, and 15 above, but fails to teach that the body has a telescoping body with length adjustment, a perforated break line, and a plurality of rigid rectangular plates with a sliding mechanism. Feightner et al. teaches the use of a body (26) having an adjustable length for extension into a cabinet at a controlled depth, the body being selected from a group of bodies consisting of a telescoping body (As illustrated in Fig 3; Column 3, Lines 4-12) with a joint enabling length adjustment, the body further has one perforated break line weakening the body structure at selected depths into the cabinet, and the body including a plurality of rigid plates with a sliding mechanism enabling the plates to slide relative to one another. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the telescoping body and its features of Feightner et al. with the teachings of Orr and Elko et al. to provide a means of making the slot filler of Elko et al. adjustable to various length so that the slot filler can be used in a computer system having various widths/lengths (Feightner; Column 3, Lines 9-11).

***Response to Arguments***

2. Applicant's arguments filed 3/3/2006 have been fully considered but they are not persuasive.

With respect to the applicants' remarks to claims 1-14, and 20-21 that, "Elko discloses none of the concepts claimed by the applicants such as selection of a body thickness to create an air flow resistance or prevention of air re-circulation", the examiner respectfully disagrees. The examiner respectfully submits that creating airflow gaps which, "prevents air from re-circling toward the air inlet" is an inherent part of the design of the Elko reference. The examiner notes that the intention when convectively cooling any electronic device is to submit the device to as much airflow as possible. If the airflow were impeded by air re-circulation which resulted in airflow traveling back toward an air inlet, the cooling would be compromised to the point that the design would have to account for such conditions. Therefore Elko et al. teaches, "an air flow gap from the air inlet to the exit that is sufficiently small to create an air flow resistance that prevents air from re-circling toward the air inlet" as claimed.

With respect to the applicants' remarks to claims 2 and 9 that the references fail to disclose, "standard electronic equipment devices and standard rack mount cases that are standard nU devices and cases where n is a multiple of U units of size 1 or greater", the examiner respectfully disagrees and directs applicant's to Orr Column 1, Lines 10-14, specifically, "the dimensional standard for racks, panels, and associated equipment".

With respect to the applicants' remarks to claims 5 and 12 that, "the references do not disclose, "the body shape that is approximately a rectangular polyhedron"", the examiner respectfully notes that the applicants recite, "approximately" which is a very broad limitation. Thus the examiner respectfully submits that when compared to the "rectangular polyhedron" of the present invention as illustrated in Figs 4a, 4b, and 4c, the body shape of the slot filler of Elko (See Figs 3, 4 and 6) is approximately the same.

With respect to the applicants' remarks to claims 5, 6, 12, and 13 that, "the surfaces depicted in Elko are not planar but rather are plates with uneven surfaces", the examiner respectfully notes that the surfaces near the air flow gap are planar in that the wedge (32) which is adjacent to the air flow gap is planar in nature. With respect to the rack mount case, one of ordinary skill in the art would comprise the exterior surfaces of a rack mount case such that they are planar to help induce airflow through the rack system.

With respect to the applicants' remarks to claims 15-19, applicants must discuss the references applied against the claims, explaining how the claims avoid the references or distinguish from them. In the present case the applicant's just remark that the Elko and Orr references fail to disclose the actions recited in claims 15-19.

### ***Conclusion***

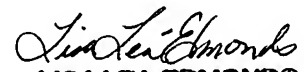
3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary M. Pape whose telephone number is 571-272-2201. The examiner can normally be reached on Mon. - Thur. & every other Fri. (8:00am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached at 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

  
**LISA LEA-EDMONDS**  
**PRIMARY EXAMINER**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ZMP